

## CLAIMS

1. System for detecting the rotational motion of a shaft in a machine housing comprising a measuring transmitter connected to the shaft, at least one measuring sensor provided on the machine housing and a measuring transducer connected to the measuring sensor, characterized in that the measuring sensor or measuring sensors (8 and 15 to 20) are supplied with electric current by a separate energy accumulator (11).
2. System as defined in claim 1, characterized in that the current generation for the energy accumulator (11) is generated by the multipole ring (7) connected to the shaft (3) and in cooperation with an oppositely disposed stator (9).
3. System as defined in claim 1 or 2, characterized in that the electric current is regulated by a regulator (10) inserted into the electric circuit.
4. System as defined in one of claims 1 to 3, characterized in that there is provided a signal transmitting unit (33) for wireless transmission of the measured quantities to a separately disposed electronic control device (34).
5. System as defined in one of claims 1 to 4, characterized in that there is provided a measuring transducer (14) for converting the sinusoidal measuring signal from the rotational motion of the shaft (3) into a yes/no signal.
6. System as defined in one of claims 1 to 5, characterized in that the signal-transmitting unit (33) has a radio antenna (12) that transmits the signals received from the measuring sensor or measuring sensors (8, 15 to 20) on to the electronic control device (34).
7. System as defined in one of claims 1 to 6, characterized in that sensors (8, 15 to 20) are used to measure the pressure (15, 16) and/or the temperature (17, 18) in the space to be sealed off (2) and/or in the surroundings (1) and/or leakage (19) and/or torque (20).
8. System as defined in one of claims 1 to 7, characterized by a seal (30) disposed on the shaft.
9. System as defined in claim 8, characterized in that the seal (30) and the measuring system consisting of measuring sensors (8, 15 to 20), regulator (10), energy accumulator (11) and transmitting unit (33) are integrally combined into a single unit.